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To honor Dale Hatfield, Silicon Flatirons has established the Dale Hatfield Scholars and Research Program. The first students to benefit from the Hatfield Scholars Program write about their valuable summer experiences.

Entrepreneurship, Innovation, and Public Policy Roundtable Series -- *Rethinking Software Patents*.

Silicon Flatirons brought together a select group of attorneys, engineers, venture capitalists, and professors to discuss whether and how to reform software patents.

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Congratulations to Patrick Thiessen, winner of the 2007 writing competition.

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A conversation with University of Colorado law professor Paul Ohm, who specializes in computer crimes.

Silicon Flatirons Mentor Program

To become involved with the program, please e-mail Jill Van Matre (jill.vanmatre@colorado.edu).

Silicon Flatirons Leading Research on Public Safety

Noteworthy articles, reports and testimony on Public Safety

UP COMING EVENTS

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- [March 4 Innovation, Intellectual Property Entrepreneurship in the Information Industries](#)

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QUICK LINKS

Silicon Flatirons Website:
<http://www.silicon-flatirons.org>

Sign up for Mailing List: email
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Neutrality Law:
<http://neutralitylaw.com/>

SILICON FLATIRONS FELLOW OPENING

Silicon Flatirons is seeking an individual to work as a Research Associate specializing in transactional law. Download the full job description and application instructions [here](#).

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SEPTEMBER 5TH, TAKING STOCK OF THE ANTITRUST MODERNIZATION COMMISSION REPORT

On September 5th, Silicon Flatirons hosted its first conference of the academic year. The conference was a tremendous success, with more than 150 attendees. Panelists discussed and evaluated the [Antitrust Modernization Commission Report](#). The report, which was 449 pages in length, highlighted that the antitrust laws remain effectively positioned to address anticompetitive conduct. Notably, the report rejected calls for new strategies or institutions to address high technology markets. It did, however, highlight a number of recommendations related to the intersection of antitrust and intellectual property law, including ones related to patent law reform and conduct related to standard setting bodies. Panelists included commissioners who evaluated the state of antitrust law, current and former antitrust enforcers, and a number of leading antitrust practitioners. In addition, the conference benefited from impressive student participation, both by law students and students in CU's [Interdisciplinary Telecommunications Program](#).

Phil Weiser, executive director of the Silicon Flatirons Program, served as moderator for each of three panels, which approached the report under the broad headings of *Rethinking Merger Review*, *Antitrust Oversight in the New Economy*, and *The Intellectual Property/Antitrust Nexus*. Following the panels, there was a keynote address by Gerald Massoudi, deputy assistant attorney general of the Antitrust Division in the United States Department of Justice. The evening concluded with a reception hosted by [Holland & Hart](#).

The afternoon's first panel, *Rethinking Merger Review*, began with a consideration of the fact that the report did not call for any significant reforms of merger review. F.M. Scherer, a professor in the John F. Kennedy School of Government at Harvard University, rejected the Commission's approach, noting the unprecedented number of mergers during the past 20 years. Don Kempf, a member of the Antitrust Modernization Commission, pushed back, saying that it is a mistake to equate "scurrying around" in the market with actual competition. Kempf noted that rollups in fragmented industries have resulted in lower prices and improved service. Diane Moss, vice president of the American Antitrust Institute, took a stance somewhere in between Scherer and Kempf. Moss asserted that a key shortcoming of the report was the lack of empirical background. Finally, John Francis, a partner with Graham & Stubbs, noted the changing face of merger review, which has shifted from consideration of market concentration after 1914's Clayton Act, to today's focus on efficiency analysis.



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Next, in *Antitrust Oversight in the New Economy*, the discussion turned to ways in which antitrust doctrine should respond to the modern economy. Panelists considered a wide variety of topics within this general heading. Michael Katz, a professor of economics and business at New York University began by noting the interaction between price discrimination and other behavior, including predatory conduct. Katz also noted that there are situations in which volume discounts can harm consumers, as in cases where prices are raised for consumers with less buying power (rather than lowered for large buyers). Panelists then discussed the 1936 Robinson-Patman Act, and its relevance (or lack thereof) in the new economy. As to the Microsoft antitrust case, Jim Hartley, a partner with Holland & Hart, noted that one important aspect was its demonstration of how antitrust doctrine has evolved to protect competition, rather than competitors. Tucker Trautman, a partner with Dorsey & Whitney, looked at the case from a different perspective, viewing it as an example of problems that can occur due to the mismatch between lengthy court procedures and the fast pace of technology markets. Trautman then noted the importance of defining the relevant timeframe in antitrust proceedings. Finally, Katz engaged moderator Phil Weiser in some witty repartee over the correct reading of *Verizon v. Trinko*, and all panelists weighed in on whether antitrust law should forbear when alternative regulatory institutions exist.

The third panel, The Intellectual Property/Antitrust Nexus, began with a discussion of the Rambus case, and the application of antitrust laws to standard setting activity. Makan Delrahim, a partner with Brownstein, Hyatt, Farber & Schreck and a member of the Antitrust Modernization Commission, asserted that in egregious cases, behavior might be actionable under principals of contract or tort law. Delrahim said his preference would be for parties to sue under principles of fraud, rather than violations of antitrust. Karma Guilianelli, a partner with Bartlit Beck Herman Palenchar & Scott, disagreed. According to Guilianelli, if an action has an anticompetitive effect or if market power is gained through deception, the actor should be subject to antitrust scrutiny. For Roy Hoffinger, vice president of Qualcomm, the more troubling issue is the extension of antitrust to disputes of licensing terms. Panelists also considered the ambiguity of commitments to provide licenses to essential patents (i.e., those necessary to implement a standard) on reasonable and non-discriminatory (RAND) terms.





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After the final panel, there was a [keynote address by Gerald Masoudi](#), deputy assistant attorney general in charge of International, Policy, and Appellate Matters in the Antitrust Division of the United States Department of Justice. Masoudi discussed parts of the report he thought were correct, and those with which he disagreed. Masoudi also discussed the role of antitrust in regulating standard setting organizations. Specifically, Masoudi noted that although he thinks antitrust should prevent the use of standard setting organizations as a front for price fixing, he does not think antitrust should be used to determine which specific approach to standard setting is the best (i.e. whether these organizations should require disclosure of restrictive terms and royalty rates).

After the keynote address, there was a reception sponsored by Holland & Hart. This reception offered students and other members of the audience to discuss the key issues addressed by the speakers.

Phil Weiser's Relevant Research:

[*Standardizing the Law of Antitrust Oversight of Standard Setting in a Global Economy*](#), forthcoming (2007).

[*The Relationship of Antitrust and Regulation In A Deregulatory Era*](#), 50 Antitrust Bulletin 549 (2005).

[Web video of the conference](#)

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OCTOBER 10TH - FUTURE OF USER GENERATED CONTENT

User Generated Content has entered the mainstream, with bloggers, music remixers, amateur video creators of YouTube fame, wikipedians, and Flickr photographers all contributing to a new media landscape. On October 10, 2007, Silicon Flatirons, along with [Communications Technology Professionals](#), and [the Cable Center](#), hosted a conference to analyze the issues surrounding User Generated Content. The Conference was held at the Cable Center in Denver, and attracted leading attorneys, venture capitalists, technologists, and academics as panelists and audience members.



Complements of w3w3.com

Jana Hentorn, senior vice president of the Cable Center, provided a brief overview for the conference, and moderated the first panel, *Changing Technologies, Evolving Consumer Tastes and New Usage Patterns*. The conversation began with panelists giving their views on the definition of “user generated content” (UGC). They seemed to agree that the definition is evolving, with even the definition of “content” in a state of flux. Panelists went on to discuss which technologies will be important in the future of UGC. Mark Taylor, senior vice president of business development for the content markets group at Level 3 Communications, remarked that one limiting factor the current popularity of UGC is the relative inability to search video content, and mentioned the need for evolving tools and techniques in that area. Alex Kelly, the CEO of Veeker Corporation, noted that social networking is, and will continue to be, a powerful way for users to find quality content. The conversation then turned to issues such as quality of service, the continuing role for gatekeepers in UGC, and changing consumer demand. Peter Yu, product owner and manager for Ziddio, noted that consumers increasingly look for rewards – either through revenue sharing or recognition and awards. The panel concluded by considering what will become the “master device” in the future. Chris Stasi, senior vice president of operations at TVN Entertainment, noted that although in-home technologies will converge, it is likely that the applications of the future will be more important than the devices.

The second panel, *The Emerging Business Model*, built on many of the ideas discussed in the first panel. Moderator Phil Weiser, executive director of Silicon Flatirons, lead a discussion on the evolving methods of revenue realization. The discussion began with a consideration of different



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ways companies could conceivably profit from UGC. David Harleston, general counsel of Current TV, noted that one problem with revenue through advertising is that advertisers generally want security and predictability – and UGC is notoriously unpredictable. Harleston noted that advertisers are more comfortable in situations where companies like Current TV screen and aggregate the content. Evan Shapiro, executive vice president and general manager of the Independent Film Channel, added that, in his opinion, the relationship between advertiser and user is important and that, in general, advertisers need to retain control. The panel also considered the sustainability of UGC's popularity. All of the panelists seemed to agree that UGC is not a passing fad, although most thought that traditional, established players would always be needed to extract value from talented newcomers. Drew Massey, founder of ManiaTV, noted that even if popular creators eventually go on to more structured employment arrangements, there is room for sites like YouTube to continue to function as “farm teams” for talent. The panel concluded with predictions for UGC in the next three to five years. Ryan McIntyre, managing director of Foundry Group, weighed in with his prediction that over time, the quality of content on sites like YouTube will continue to increase, and that we will see a return to older notions of program sponsorship.

The third and final panel, Legal Issues: Intellectual Property, Privacy, and Consumer Protection, was also moderated by Silicon Flatirons Executive Director, Phil Weiser. This panel discussed the legal issues surrounding UGC – including the extent to which the use of copyright-protected content can be called “fair use.” Ashlie Beringer, of counsel with Gibson Dunn & Crutcher LLP, highlighted the critical role of safe harbors in the Digital Millennium Copyright Act (DMCA). Paul Ohm, associate professor at the University of Colorado Law School, noted that in many cases, privacy concerns will be as much (or more) of an issue than copyright protection. Marsha MacBride, executive vice president of the National Association of Broadcasters, added that she thinks we will see consumers demonstrating variable degrees of willingness to give up privacy in the context of UGC. As with each of the other panels, the audience drove a significant portion of the discussion during the last panel. One audience member asked about whether Congress would reevaluate the DMCA in the near future. Panelists agreed with Dan Brenner, NCTA's senior vice president for law & regulatory policy, who noted that we are likely to continue to see issues surrounding UGC being resolved in the courts, as Congress is unlikely to change the DMCA dramatically in the near future.

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NATIONAL PRESS FOR SILICON FLATIRONS ALTLAW.ORG

Silicon Flatirons has recently received national press in the New York Times and Information Week regarding [AltLaw.Org](http://www.altlaw.org), the first free, full-text searchable database of Supreme Court and Federal Appellate case reports. It is a powerful resource for journalists, attorneys, legal scholars and members of the general public who need quick access to cases and want to avoid hundreds of dollars in fees for proprietary law databases.

The creators of AltLaw.org, Colorado Law School professor Paul Ohm and Columbia Law School professor Tim Wu, met at a Silicon Flatirons event and brainstormed ideas about building a site that allows searching through court decisions the same way the public can find information through search engines such as Google and Yahoo.

[Paul Ohm](#), affiliated with Silicon Flatirons, wrote the thousands of lines of code that download cases from over a dozen court Web sites each night to AltLaw.org. Ohm stated that, “the touchstone of AltLaw.org is openness, and this means that not only will users be able to search cases, but they’ll also be able to make copies of all of the cases in our database to reuse or remix in any way that they’d like.” Ohm also specializes in the emerging field of computer crime law, as well as criminal procedure, intellectual property, and information privacy. Prior to joining CU he worked as an Honors Program trial attorney in the Computer Crime and Intellectual Property Section of the U.S. Department of Justice.



AltLaw.org contains nearly 170,000 decisions dating back to the early 1990’s and Ohm and Wu expect the site’s database will grow over time. For those interested in more information, the following articles are available:

A Quest to Get More Court Rulings Online, and Free, New York Times

<http://www.nytimes.com/2007/08/20/technology/20westlaw.html?ref=business>

Free Legal Search Engine AltLaw.org Challenges Fee-Based Competitors, Information Week

<http://www.informationweek.com/news/showArticle.jhtml?articleID=201802106>

Columbia Law School Announces Launch of AltLaw.org—Free Searchable Database of U.S. Court Decisions, Joint Effort with University of Colorado Law School, Columbia Law School Press Release

http://www.law.columbia.edu/media_inquiries/news_events/2007/august07/altlaw_launch

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HATFIELD SCHOLARS REPORT ON VALUABLE SUMMER INTERNSHIPS

[Dale Hatfield](#) is often referred to as Silicon Flatirons' "killer application" because he is able to bring luminaries and respect to the program by virtue of the enormous goodwill out there for him. Stated simply, Dale is revered in the telecommunications world for his intellectual honesty, thoughtful analysis, and very kind (as well as humble) demeanor. Currently, he is an affiliated faculty member as an Adjunct Professor in the [Interdisciplinary Telecommunications Program \(ITP\)](#) at the University of Colorado at Boulder. Previously, Hatfield served as the Chief of the Office of Engineering and Technology at the Federal Communications Commission (FCC). To honor his immense contributions, Silicon Flatirons has established the [Dale Hatfield Scholars and Research Program](#), which provides student internships in governmental or public interest organizations that work for the public good. This program was made possible by a number of very generous contributions made to honor Dale Hatfield and his commitment to public service.

This past summer, two students interned in Washington, DC and were supported by a grant from the Hatfield Scholars Program. Through an application process, students were chosen and matched with companies according to their interests. John Bergmayer worked as an intern at Public Knowledge and Michael Richardson worked as an intern in the Office of Commissioner Michael Capps at the Federal Communications Commission. Below, Bergmayer and Richardson recollect on their experiences and participation in the Hatfield Scholars Program.

John Bergmayer wrote the following about his experience at [Public Knowledge](#), a non-profit advocacy group that works on issues in telecommunications, media, and intellectual property law:

My work at Public Knowledge required not only an understanding of law, public policy, and the procedures of dealing with different government agencies, but an understanding of the technological and business underpinnings of the issues being worked on. I worked on many projects over the summer with Public Knowledge. Many of these were very quick research memos and similar projects. I attended several meetings with Hill staff and FCC commissioners and staff. I also wrote many pieces for the [Public Knowledge blog](#), and wrote and designed several handouts that summarized Public Knowledge's positions on a number of topics. The largest issue Public Knowledge worked on this summer related to the upcoming 700 MHz spectrum auction, and I did a lot of research and other work on issues relating to it. However, the rest of this letter will be taken up with describing two of the more substantive projects I worked on.



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CableCARD Letter

There is ongoing friction between the cable industry and the consumer electronics industry regarding the technology standards by which consumer electronics devices can receive and decode cable signals. Public Knowledge is one of the few public interest groups to have become interested in the matter. Before the FCC were competing proposals for what is known as two-way cable compatibility—means by which consumer electronics devices can access services (like Video-on-Demand) that require two-way communication between the receiving device and the cable head-end. I wrote a letter to the FCC largely supporting the Consumer Electronics Association proposal. In researching this issue we met with lawyers and staff from the CEA and several large consumer electronics companies. We had to calibrate the message in order to receive support from several allied public interest groups, and we met with and had to defend our position with cable industry lawyers, who were quite piqued that we waded into this highly technical area and took a position opposed to theirs. Our letter to the Commission apparently had its desired effect, as it has initiated a Notice of Proposed Rulemaking on the CEA proposal. Our work on CableCARD has received some notice in the field (e.g., it was picked up by Benton's Communications-related Headlines). I also prepared a comment on the NPRM for Public Knowledge which elaborates Public Knowledge's position, and which will be filed with the Commission shortly.

NBC Universal Reply Comments

NBC Universal filed a comment with the FCC asking it to require that Internet Service Providers begin taking steps to block internet users' access to Internet "applications that allow" copyright infringement. On behalf of Public Knowledge and about a dozen other public interest groups, I drafted a reply comment countering NBC's proposal on legal, technological, and public policy grounds. We argued that the FCC did not have the jurisdiction to implement NBC's proposal, and that even if it did, the kind of network filters NBC proposed would be a bad idea from a public policy perspective and doomed to fail from a technological perspective. As with the CableCARD letter, I had to make substantial modifications to the filing in order to receive support from several prominent allied public interest groups. This filing ended up making something of an impact, as it was picked up by CNET News and Investor's Business Daily, as well as the usual trade and technology press.

Conclusion

I have always been interested in the kinds of issues that Public Knowledge works on— but only as a spectator. I did not know if I would actually enjoy working on them for a living. What I found out this summer was that the legal, advocacy, and policy work surrounding these exciting issues is itself exciting. I hope to be able to do this kind of work in my career after law school. I am grateful to everyone at the Silicon Flatirons Program who made it possible for me to go to Washington this summer to work on the kinds of issues that genuinely interest and motivate me.



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John Bergmayer is a student at the University of Colorado Law School. He has a degree in English from Colorado State University, and served for six years in the Colorado Army National Guard. He is interested in telecommunications and intellectual property law and policy.

Michael Richardson wrote the following about his internship in the Office of Commissioner Michael Copps at the [Federal Communications Commission](#):

I found my summer experience as an Intern in the Office of Michael Copps at the FCC to be invaluable. Day to day work primarily consisted of writing technical or policy memos for the Commissioner's legal advisers. The subjects I worked on ranged from conference preparation to many of the pressing public policy issues that have recently been before the Commission. In addition to writing memos, one of the most interesting aspects of this internship was the opportunity to sit in on meetings between legal advisers and stakeholders where I was able to experience policy negotiation first-hand. As a result of sitting in on meetings, I had the opportunity to meet and interact with policy advocates from many different sectors of the industry. Moreover, events were held throughout the summer that allowed us to interact with interns and full-time employees from other parts of the Commission. After having watched decisions as they are made from the inside, I have a much better sense of the dynamics of the FCC decision process. Support from Silicon Flatirons and financial help through the donors to the Hatfield Award made it possible for me to spend the summer working for the FCC and, specifically, working for a Commissioner who is generally considered a champion for public interest issues from broadband access to media consolidation.

Michael Richardson has an undergraduate degree in Information Networking and Telecommunications. He is currently working on his thesis to complete a Masters Degree from the Interdisciplinary Telecommunications Program at the University of Colorado.

Silicon Flatirons is grateful to Public Knowledge, the Federal Communications Commission and the generous contributors to the Dale Hatfield Scholars and Research Program for allowing these significant opportunities to occur - with more to come!

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THE SILICON FLATIRONS ROUNDTABLE ON ENTREPRENEURSHIP, INNOVATION AND PUBLIC POLICY

Topic: *Rethinking Software Patents*
Discussion held on April 20, 2007
Jill Van Matre, Rapporteur

On April 20, 2007, the University of Colorado School of Law's Silicon Flatirons Program hosted a roundtable entitled, *Rethinking Software Patents*. This roundtable is the second in the *Entrepreneurship, Innovation, and Public Policy Roundtable Series*, co-sponsored by local venture capitalist Brad Feld, managing director of *Foundry Group*. Reports on each discussion in the *Roundtable Series* are available online at <http://silicon-flatirons.org/>. University of Colorado School of Law Associate Professor Paul Ohm moderated the discussion.

The discussion was timely, as the role of patents in general and software patents in particular have become increasingly controversial. In the face of skyrocketing costs of patent litigation and the increasing use of patent lawsuits as a strategic tool to extract royalties (as opposed to protect existing products),¹ both Congress and the Supreme Court are eyeing avenues for possible reform. Notably, even patent examiners describe the current situation as problematic, with few commentators defending either the speed or effectiveness of the Patent's Office ability to sort the wheat from the chaff. Indeed, patent examiners themselves have explained that, with significant patent reforms, they will be increasingly unable to "provide the quality of examination the peoples of the world deserve" and that "[a]n increase in patent applications does not necessarily represent an increase in technological progress[.]"² Against this backdrop, Silicon Flatirons brought together a select group of attorneys, engineers, venture capitalists, and professors to identify areas of consensus as well as those requiring further exploration.

The Roundtable began with a short presentation from Pamela Samuelson, who holds a joint appointment with the University of California Berkeley's School of Information and Boalt Hall School of Law and is widely recognized as a pioneer in intellectual property and information policy.³ She began by noting that controversy



¹ See e.g. Nathan Vardi, *Patent Pirates*, Forbes.com (May 7, 2007), available at http://www.forbes.com/free_forbes/2007/0507/044.html.

² The Bureau of National Affairs, *Patent Examiners' Unions Warn of Global Decline in Patent Quality*, BNA.com, Apr. 20, 2007, available at <http://pubs.bna.com/ip/bna/PTC.NSF/eh/a0b4g7y6q9>, quoting *Open Letter From a Coalition of Patent Examiner Representatives* (Apr. 13, 2007), available at <http://pub.bna.com/ptcj/POPAletterApr13.pdf>.

³ Samuelson has written about this subject from several different points of view. In 1990, she wrote a paper entitled *Benson Revisited: the Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions* (39 Emory L.J. 1025 (Fall, 1990)). In *Benson Revisited*, she argues against Professor Donald Chisum's



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has surrounded software patents for more than forty years. Samuelson observed that the sustained controversy itself suggests flaws in the software patenting system. Samuelson remarked, “The United States Patent and Trademark Office did not know what to do with [software patents] in the 1960s, and so many years later the same is still true.” Samuelson is now examining software patents under a grant by the Kauffmann Foundation. Specifically, she is looking at how software patents affect entrepreneurs. From the standpoint of entrepreneurs, Samuelson advocates the following four reforms: (1) a higher standard for “invention”, (2) meaningful and low cost post-grant review, (3) damages, rather than injunctive relief, particularly for components like interfaces, and (4) proportionality of damages.

After this background, participants explored several important aspects of the issue of software patent reform. Participants noted that the patent system is in many ways ill equipped to handle increasingly complex systems. Invoking a widely noticed blog post which he had authored (which followed an earlier Silicon Flatirons conference), Brad Feld suggested that the best of all worlds would be to determine that software inventions should be unpatentable.⁴ Other participants noted the difficult feasibility questions arising from this strategy, including that anything done in software could also be done in hardware. The discussion then turned to economic implications, and the proper economic lens through which the issue should be considered. Finally, participants discussed potential solutions to the problems plaguing the patent system and the viability of those solutions.

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argument that *Gottschalk v. Benson* (409 U.S. 63 (1972)) should be overruled. See Donald S. Chisum, *The Patentability of Algorithms*, 47 U. Pitt. L. Rev. 959, 971 (1986). Samuelson instead asserts that there was a sound basis in existing caselaw for keeping patents out of the software arena. Then, four years after *Benson Revisited*, Samuelson co-authored *A Manifesto Concerning the Legal Protection of Computer Programs*, which approached the issue from another perspective. In *A Manifesto*, she examined the characteristics of the patent system, and software patents, concluding that there was a substantial mismatch resulting in the patent regime’s inability to provide effective remedies in the software context. Pamela Samuelson, Randall Davis, Mitchell D. Kapur & J.H. Reichman, *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 Colum. L. Rev. 2308 (Dec. 1994).

⁴ See *Feld Thoughts, Abolish Software Patents*, at http://www.feld.com/blog/archives/2006/04/abolish_software.html.

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SILICON FLATIRONS WRITING COMPETITION WINNER

Silicon Flatirons congratulates Patrick Thiessen, winner of its 2007 Writing Competition. The competition, now in its fifth year, is possible thanks to the generous support of Faegre & Benson LLP. Ben Fernandez, a past winner of the Competition, and current associate with Faegre & Benson, oversaw the judging process and presented Patrick with a check for \$500 at the October 10th Conference on User Generated Content.



Patrick's winning submission, *The Real ID Act and Biometric Technology: A Nightmare for Citizens and the States that Have to Implement It*, will be published in an upcoming edition of the [Journal on Telecommunications and High Technology Law](#).

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***THE DENVER POST INTERVIEW WITH SILICON FLATIRONS PROFESSOR PAUL OHM
A CONVERSATION WITH UNIVERSITY OF COLORADO LAW PROFESSOR PAUL OHM,
WHO SPECIALIZES IN COMPUTER CRIMES.***



Q: You and two colleagues recently polled 90 music pirates from the CU student body. What was that about?

A: We brought in a bunch of students who were self-avowed pirates. We promised anonymity. We asked, "What would you pay for music?" Twenty percent said they would never pay. But the other 80 percent said "You know - 20 cents, 30 cents, 40 cents - I might pay that." It's very unlikely that the music industry will sell music for 20 cents. But most industry watchers think they can afford to. Maybe they would be willing to if they can bring into the fold the people who are pirates now. Maybe there's a business opportunity that's being missed.

Q: You found that consumers are willing to buy lower-quality versions of songs for 24 cents less than the standard 99 cents.

A: There is a lot of research into software that makes it difficult to copy digital movies and music. One well-known vulnerability is that the second a digital movie hits your screen, it's just visible light. You could put a video camera in front of it and re-record it. That's called the "analog hole." We used analog-hole techniques to make copies of digital music. We played the digital track alongside the analog-hole track. We asked a sample group, "Would you pay more for this one or that one?" Your average consumer, if ours is representative, would pay 24 cents less for the analog-hole copy.

Q: You worked in the U.S. Department of Justice's computer-crime section starting after Sept. 11, 2001. What kind of terrorism-related work did you do?

A: There is fearsome technology called steganography. It's a form of encryption that lets you hide messages in images. Al-Qaeda could post a picture of a tree on an innocuous-looking website. On the other side, if you know steganography and you know the password, you can extract the message. It's impossible to know if they're using steganography. It's hard to detect if it's even there. That's a conversation that leads us into bad policy decisions. While it's a worthwhile thing to think outside the box and imagine what terrorists are doing, we shouldn't let that drive policy.

Q: Much attention is paid to privacy versus national security and criminal enforcement issues. How much privacy do we have on the Internet today?



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A: In some sense our privacy is much more at risk today than it was, and it's not because of any administration policies or politics. It's just because technology makes us more vulnerable. But at the same time, there are technologies that can restore some of that privacy balance. You need to be smart and you need to know about computers.

Q: What technologies?

A: Encryption tools that allow you to resist wiretapping, or tools that redirect your communications to make them look like they're coming from somewhere else. Some people argue you can never have too much privacy. But the costs of complete anonymity for everyone on the Internet would be significant. Petty thieves, child pornographers and death-threat senders would also be fully anonymous. I'm not saying Big Brother everywhere is a good thing. I'm saying, in a world of perfect privacy, there would be a lot of costs.

Q: What kinds of computer crime are on the rise?

A: One trend getting some attention lately is this thing called a "botnet." Traditionally a hacker would break into computer A and then computer B and so on. It's very labor intensive, which puts a cap on the amount of damage he can create. With a botnet, you attack in a much more automated way. Computers are vulnerable all over the Internet so you quietly collect computers. Later you tell them to act simultaneously. It makes it much harder for law enforcement to track you down. It also multiplies by many times the amount of force you can bring to an attack.

Q: You've said too much attention is paid to a relatively small group of highly sophisticated hackers, whom you call "superusers." Why?

A: People believe there are these hackers who are immune from all detection, immune from any law, and their ability to cause harm is so significant that it needs to be addressed. Much of the time it's the unsophisticated user who's really creating the harm. If we train our resources on changes to the law that would let us capture the ordinary, bumbling, mistake-prone user, and if we ignore or treat differently the superuser, we would end up with a much more sensible policy. I think if we had the statistics, we'd see that the run-of-the-mill harm is a more significant percentage of the harm, and it's the easier crime to solve.

Edited for space and clarity from an interview by staff writer Greg Griffin.

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SILICON FLATIRONS MENTOR PROGRAM

Each year, Silicon Flatirons matches Colorado Law students with mentors in the Boulder/Denver community. Mentors include lawyers, venture capitalists, and members of the business and technology communities. Mentors help students with issues ranging from class selection to career planning. Pairs meet approximately once a semester, depending on availability and interest. If you would like more information, or want to become involved with the program, please e-mail Jill Van Matre (jill.vanmatre@colorado.edu).

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PUBLIC SAFETY, NEW TECHNOLOGIES, AND THE FUTURE OF EMERGENCY RESPONSE

WEDNESDAY, NOVEMBER 28, 2007 AT THE CU DENVER SCHOOL OF PUBLIC

The communications technology used by public safety constitutes a critical element of our Homeland Security infrastructure. From the point at which a citizen calls 911, much of the ability of first responders to manage an emergency situation rests on the effectiveness of their information and communications technology. Whether it involves an awareness of the location of the 911 caller, the ability of emergency service provider to communicate during times of crisis, or the ability of different emergency service agencies to communicate with one another, technological failings can lead to lost lives, lost opportunities, and compromised effectiveness for public safety. Despite the well-publicized failings during times of crisis (e.g., Columbine, 9/11, and Hurricane Katrina), both state and federal leadership has often been either lacking or ineffectual in this area.

This conference will take a look forward at the future of emergency response, evaluating how new technologies can be adopted to enable first responders to operate more effectively. A starting point for the discussion will be a [report](#) developed by Silicon Flatirons last spring as a result of a grant from CTIA-The Wireless Association and a Roundtable that brought together leaders from industry, academia, and the public safety community. Similarly, the conference will evaluate the state of the E-911 system, using as a starting point the analysis offered by Dale Hatfield in a widely praised report commissioned by the FCC. In addition to exploring the array of opportunities and challenges related to public safety communications (as to both interoperability and the development of next generation networks) and the upgrade of the E-911 system, we will also analyze the difficult intergovernmental relations issues that must be addressed to move forward on either front.

2:45-3:00 Welcome & Overview

- Kathleen Beatty
Dean, University of Colorado-Denver School of Public Affairs
- Phil Weiser
Executive Director, Silicon Flatirons Program

3:00-3:30 Tutorial: Public Safety's Use of Communication Technology

- Dale Hatfield
Adjunct Professor, University of Colorado; former Chief Engineer, FCC

Registration:

This event is free and no pre-registration is required.

4 Continuing Legal Education Credits

Location:

CU Denver School of Public Affairs
1380 Lawrence Street Center.
Second floor

[Link to Map](#)

Conference information also available at:

<http://www.silicon-flatirons.org>



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3:30-4:30 The Opportunities for Interoperability and A Next Generation Network

- Chris Guttman-McGabe
Vice President, CTIA—The Wireless Association
- Tom Guthrie,
President & Chief Executive Officer, Twisted Pair Communications
- Nancy Jesuale
President, NetCity Inc.
- William Pessemier
Executive Communications Systems Advisor for the International Association of Fire Chiefs/former Incident Commander, Columbine High School, Littleton, Colorado Fire Department

4:40-5:40 Upgrading Our E-911 Infrastructure

- Brad Bernthal
Clinical Professor, University of Colorado School of Law
- Ray Gifford
Partner, Kamlet, Shepherd & Reichert; former Chairman, Colorado Public Utilities Commission
- Kathleen Hamm
Vice President, T-Mobile
- Stephen Meer
CTO, Intrado

5:40-6:40 Overcoming the Culture of Silos and Facilitating Intergovernmental Cooperation

- Mike Locatis
Chief Information Officer, State of Colorado
- Paul Teske
Professor of Public Affairs, University of Colorado
- Charles Werner
Chief, NTLA, Charlottesville Fire Department

6:40-7:10 Closing Address John Kneuer
NTLA Administrator and Assistant Secretary, Department of Commerce

7:10-8:00 Reception



NOVEMBER 2007 NEWSLETTER

SILICON FLATIRONS LEADING RESEARCH ON PUBLIC SAFETY

Silicon Flatirons is involved in elevating the debate surrounding Public Safety communications issues. Below are some of the noteworthy articles, reports and testimony on this matter.

-- Dale N. Hatfield and Philip J. Weiser, Towards a Next Generation Network for Public Safety Communications, available at http://www.silicon-flatirons.org/conferences/Hatfield_Weiser_PublicSafetyCommunications.pdf.

-- Dale N. Hatfield and Philip J. Weiser, [A New View: Developing a workable next-generation network for public safety means rethinking entrenched ideas and looking toward a future roadmap](#), Mission Critical Communications (Aug. 2007).

-- J. Brad Bernthal, Steve Robertson and Justin Turner, [Collaborative Networks and the Alaska Land Mobile Radio System: A Framework for Analyzing Inter-Agency People Problems Which Frustrate Public Safety Interoperability](#), Working Paper (2007).

-- Philip J. Weiser, [Communicating During Emergencies: Toward Interoperability and Effective Information Management](#), 59 Fed. Comm. L.J. 547 (2007).

-- [Testimony of Dale N. Hatfield before the Senate Committee on Commerce, Science, and Transportation Hearing on Voice over Internet Protocol \(VoIP\) and the Future of 9-1-1 Services](#) (April 10, 2007).

-- [Testimony of Philip J. Weiser before the U.S. Senate Committee on Commerce, Science and Transportation](#) (June 14, 2007).

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NOVEMBER 2007 NEWSLETTER

Digital Broadband Migration: Information Policy for the New Administration

February 10th and 11th at the University of Colorado School of Law and the University Memorial Center (UMC)

Please save the date for our exciting flagship conference. This year, panelists will include Stanford Law Professor Larry Lessig, Level 3 CEO Jim Crowe, FCC Commissioner Jonathan Adelstein, FTC Commissioner Jon Leibowitz, and former FCC Chairman Michael Powell.

The transformation of telecommunications from an analog, narrowband network optimized for voice to a digital, broadband network optimized for data traffic has created a myriad of challenges for businesses, policymakers, and academics alike. Consider that, in 2000, when then-FCC Commissioner Michael Powell coined the term "the digital broadband migration," the iPod had yet to be rolled out to consumers and Google was not yet a verb. Seven years later, the iPod has revolutionized the music industry, the iPhone is sending shock waves through the wireless world, and the Apple TV may similarly bring dramatic changes to video programming markets.

In 2009, the next President will take office with an array of information policy questions demanding attention. This conference aims to underscore the challenging policy issues that will be high on any new administration's agenda. In particular, we will evaluate questions related to changing broadband and wireless markets; challenges related to protecting privacy and security; and the optimal direction for intellectual property reform. With a thoughtful array of leaders from academic, industry, and governmental circles, we believe that this conference will continue the Silicon Flatirons' tradition of encouraging "bolder thinking" in Boulder. Like its predecessors, the proceedings from this conference will be published in the third volume of the Journal on Telecommunications and High Technology Law.

Registration Includes:

- Symposium Admission
- Final Lunch & Reception
- Journal Symposium Issue

Rates:

- CU Faculty, Staff and Students- Free
- Academic/Public Interest/Government-\$250
- CU Alumni- \$300
- FCBA/DTP members-\$350
- Regular- \$400

Add \$100 to all registration rates after January 10

To Register: Send a check payable to the "University of Colorado" with contact information including email to:

University of Colorado Law School
Silicon Flatirons Program
UCB 401
Boulder, CO 80309

Conference information also available at:

<http://www.silicon-flatirons.org>



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Sunday, February 10, at CU School of Law Wittemyer Courtroom

- 9:15 - 9:30 Welcome
- Phil Weiser
Executive Director, Silicon Flatirons Program
- 9:30 - 10:15 Overview Tete a Tete
- Jonathan Adelstein
Commissioner, Federal Communications Commission
 - Jon Leibowitz
Commissioner, Federal Trade Commission
- 10:15 - 11:30 Overview Panel: The Dynamics of Information Policy
- Moderator: Phil Weiser
Founder and Executive Director, Silicon Flatirons Program
 - Discussants:
Jonathan Adelstein
Commissioner, Federal Communications Commission
Kathryn C. Brown
Senior Vice President, Verizon
Steve Davis
Senior Vice President and Assistant General Counsel, Qwest
Jon Leibowitz
Commissioner, Federal Trade Commission
Gigi Sohn
Founder and President, Public Knowledge
- 11:30 - 12:15 Overview Address
- Lawrence Lessig
Professor of Law, Stanford University
- 1:30 - 3:30 Broadband Policy
- Moderator: David Ellen
Senior Vice President, Cablevision Systems Corporation
 - Presenters:
Robert Atkinson
President, Information Technology and Innovation Foundation
Howard Shelanski
Professor of Law, University of California at Berkeley
Barbara van Schewick
Associate Professor of Law, Stanford University
Kevin Werbach
Assistant Professor of Legal Studies, The Wharton School
 - Discussants:



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Jon Nuechterlein
Partner, WilmerHale
Joe Waz
Vice President, Comcast Corporation
Rick Whitt
Washington Telecom and Media Counsel, Google

- 3:45 - 5:45 Spectrum and Wireless Policy
- Moderator: Ari Fitzgerald
Partner, Hogan & Hartson
 - Presenters:
Stuart M. Benjamin
Professor of Law and Associate Dean of Research, Duke University
Ellen Goodman
Professor of Law, Rutgers School of Law - Camden
Tim Wu
Professor of Law, Columbia University
 - Discussants:
Mark Cooper
Director of Research, Consumer Federation of America
Bryan Tramont
Partner, Wilkinson Barker Knauer
Stephen Williams
Senior Judge, U.S. Court of Appeals, D.C. Circuit
- 5:45 - 6:45 Reception (Sponsored by AT&T)

Monday, February 11, University Memorial Center

- 8:30 - 9:15 Keynote Address
- Michael Powell
Former Chairman of the Federal Communications Commission
- 9:15 - 11:00 Privacy, Security, and Government Surveillance
- Moderator: Paul Ohm
Associate Professor of Law, University of Colorado
 - Presenters:
Julie Cohen
Professor of Law, Georgetown University
Edward Felton
Professor of Computer Science and Public Affairs, Princeton University
Orin Kerr
Professor of Law, Georgetown University



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Peter Swire
Professor of Law, Ohio State University

- Discussants:
Scott Charney
Corporate Vice President, Microsoft

Chris Painter
Principal Deputy Chief, U.S. Department of Justice

Lior Strahilevitz
Professor of Law and Walter Mander Teaching Scholar, University of Chicago

11:15 - 1:00 Intellectual Property Reform

- Moderator: Natalie Hanlon-Leh
Partner, Faegre & Benson
- Presenters:
Mark Lemley
William H. Neukom Professor of Law, Stanford University
Arti Rai
Professor of Law, Duke University
Chris Sprigman
Associate Professor of Law, University of Virginia
- Discussants:
Brad Feld
Managing Director, Foundry Group and Mobius Venture Capital
Preston Padden
Executive Vice President, Walt Disney Company
Pam Samuelson
Professor of Law and Chancellor's Professor of Information Management, University of California at Berkeley

1:00 - 2:15 Lunch and Closing Speaker

- Jim Crowe
CEO, Level 3 Communications

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NOVEMBER 2007 NEWSLETTER

INNOVATION, INTELLECTUAL PROPERTY, AND ENTREPRENEURSHIP IN THE INFORMATION INDUSTRIES MARCH 4, 2008 UNIVERSITY OF COLORADO LAW SCHOOL

The pace of innovation in the information industries continues to keep businesses on their toes. The rise of Google, for example, underscores the opportunities for upstart firms to capitalize on new opportunities. Well before Google, firms like Qualcomm capitalized on innovative technologies that incumbent firms either missed or wrote off. Indeed, the pace of innovation in the information industries has led some commentators to suggest that today's Internet-enabled economy reflects Schumpeter's vision of creative destruction where the important battles are not for customers of today's products, but developing new technologies that create a new market.

The economic importance of technological change raises important questions for policymakers. One important set of questions revolve around government investment in basic research and the nature of the technological landscape. In a number of technology markets today, including wireless communications, the Internet, and biotechnology, government support for basic research as well as basic research by dominant firms laid the foundation for later innovations. Today, however, there is an increasing level of concern that such basic research is not adequately being supported.

A second set of questions revolves around whether and how start-up firms contribute to the pace of innovation. On one view, these firms are able to conduct risky experiments and basic research with the promise of being bought out by more established firms. In other cases, upstart firms worry about the ability of established firms to undermine their success once the upstarts establish the popularity of a new product-particularly where the upstart must rely on the platform of an established firm. In some cases, upstarts call for regulation, such as the call for open access to wireless phones, to prevent such conduct and to foster innovation.

A final set of questions relate to the connection between innovation and intellectual property protection. On one view, including that of "neo-Schumpeterians," strong patent rights enable firms to develop a position in today's market by conferring powerful incentives to invest in innovations. Others, however, are concerned that today's incumbents-or even others who strategically invest in patents and not innovation per se-are able to abuse the patent system for their advantage.

To evaluate the appropriate role for government policy in facilitating entrepreneurship and innovation, this conference brings together a group of industry leaders to examine these questions.



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2:00-2:15 Introduction and Overview

- Phil Weiser
Executive Director, Silicon Flatirons Program

2:15-3:00 Keynote Address:

- Paul Jacobs
CEO, Qualcomm

3:00-4:00 The Dynamic Nature of the Information Industries

- Dick Green
CEO, Cablelabs
- Jennifer Manner
Vice President, MSV
- David Goodfriend
Vice President, Echostar

4:15-5:15 The Uses and Abuses of Intellectual Property

- John Posthumous
Partner, Greenberg Traurig
- Jason Haislmaier
Partner, Holme Roberts & Owen
- Jason Mendelson
Managing Director, Foundry Group
- Tom Franklin
Partner, Townsend, Townsend & Crew

5:15-6:15 The Opportunities and Strategies for Successful Start-ups

- Peter Mannetti
Managing Director, iSherpa Capital
- Bill Mooz
Director, Sun Microsystems
- Don Gips
Group Vice President, Level 3

6:15-7:15 Reception (Sponsored by Greenberg Traurig)

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