

In the
United States Court of Appeals
For the Seventh Circuit

No. 10-2144

SENG-TIONG HO, et al.,

Plaintiffs-Appellants,

v.

ALLEN TAFLOVE, et al.,

Defendants-Appellees.

Appeal from the United States District Court
for the Northern District of Illinois, Eastern Division.
No. 1:07-cv-04305—**Elaine E. Bucklo**, *Judge*.

ARGUED JANUARY 20, 2011—DECIDED JUNE 6, 2011

Before RIPPLE and HAMILTON, *Circuit Judges*, and
MURPHY, *District Judge*.*

RIPPLE, *Circuit Judge*. Seng-Tiong Ho and Yingyan Huang brought this action against Allen Taflove and Shi-Hui Chang in the United States District Court for the Northern District of Illinois. They alleged that the defen-

* The Honorable G. Patrick Murphy, United States District Judge for the Southern District of Illinois, is sitting by designation.

dants, members of another research team at the same university, violated the Copyright Act by publishing equations, figures and text copied from the plaintiffs' work. The plaintiffs also raised several state law claims against the defendants based on the alleged copying. The defendants filed a motion for summary judgment and a motion to dismiss. The district court granted the defendants' motion for summary judgment as to all claims and therefore declined to address the motion to dismiss.

We conclude that the district court correctly granted summary judgment in favor of the defendants. Professor Ho and Ms. Huang fail to show a genuine dispute of material fact that, if resolved in their favor, would give the allegedly copied equations, figures and text the protection of the Copyright Act. Moreover, the Copyright Act preempts two of the three state law claims raised on appeal; the third state law claim fails to survive summary judgment on the merits. Accordingly, we affirm the judgment of the district court.

I

BACKGROUND

A. Facts

Professors Ho and Taflove are both engineering professors at Northwestern University, and, during the relevant period, Ms. Huang and Mr. Chang were engi-

neering graduate students at Northwestern University.¹

Starting in 1997, Mr. Chang worked as a graduate student with Professor Ho. In 1998, Professor Ho conceived of and first formulated a “4-level 2-electron atomic model with Pauli Exclusion Principle for simulating the dynamics of active media in a photonic device (‘the Model’).” Appellants’ Br. 4. It is not contested that the Model significantly advanced previous models. By 1999, Professor Ho had completed mathematical derivations of the Model, which comprised sixty-nine pages of notes and equations. The Model currently has no known commercial use.

Professor Ho then tasked Mr. Chang with creating a computer program code, using the derived equations, for the purpose of running Model simulations. The computer program code was based on an earlier program that Mr. Chang had helped create. Mr. Chang, however, was unsuccessful in this task because of programming errors.

In June 2002, Mr. Chang switched to Professor Taflove’s research group. When Mr. Chang switched groups, he was warned by the head of the department not to continue any work previously done in Professor Ho’s group and to avoid misappropriating Professor Ho’s

¹ Ms. Huang is currently an employee of Professor Ho. Mr. Chang is now a professor at National Cheng Kung University in Taiwan. For the purposes of this opinion, we use the titles the parties had during the relevant time period (i.e., Mr. Chang, not Professor Chang).

work. Mr. Chang returned several of Professor Ho's notebooks, but he failed to return an original copy of one of Professor Ho's notebooks previously issued to him in early 2002 to record his work.

Ms. Huang began to work for Professor Ho in September 2000. Until 2001, Ms. Huang's work focused on applying the Model to different mediums. With permission from Professor Ho, some results from the plaintiffs' research were mentioned briefly in a conference paper published in 2001² and then were published in full in 2002 in Ms. Huang's master's thesis. Mr. Chang, who already had switched to Professor Taflove's research group, asked Ms. Huang to provide him with two figures from her work and copies of her master's thesis.

Professor Taflove and Mr. Chang submitted a symposium paper to the IEEE Antennas and Propagation Society ("APS paper") and an article to the journal *Optics Express* ("OE article"). These submissions described the Model and its applications: The APS paper provided a brief summary, and the OE article described the Model in detail. Some of the figures in Ms. Huang's master's thesis also were included in these submissions. The APS paper was published in 2003, and the OE article was published in 2004. Professor Taflove and Mr. Chang did not attribute any of the contents of the OE article or the APS paper to Professor Ho or Ms. Huang.

² The conference paper was prepared by Seongsik Chang, a postdoctoral fellow in Professor Ho's group, and listed Professor Ho, Mr. Chang (the defendant) and Ms. Huang as co-authors.

Professor Ho first became aware of the alleged wrongdoing in 2004, when he submitted his project for publication in *Optics Communications*, and it was rejected because of a previously published paper on the same topic, namely Professor Taflove and Mr. Chang's APS paper. In 2007, the plaintiffs received certificates of copyright in Professor Ho's 1998 and 1999 notebooks, Ms. Huang's master's thesis, two figures used within Ms. Huang's master's thesis and a visual presentation given by Ms. Huang that discussed the Model.

Professor Ho and Ms. Huang allege that Professor Taflove and Mr. Chang infringed upon their copyrights six times, by using the copyrighted materials without permission in the following documents, listed chronologically: (1) the APS paper; (2) Mr. Chang's Ph.D. thesis; (3) the OE article; (4) Professor Taflove and Mr. Chang's book chapter, published by Artech House in 2005; (5) Professor Taflove's presentation in 2006; and (6) Professor Taflove's presentation in 2007. "[T]he two main infringing documents" are the APS symposium paper and the OE article, as the other incidents of infringement involve parts of these two documents. Appellants' Br. 7.

Professor Ho and Ms. Huang assert that the OE article has twenty-one items copied from their work and that the APS symposium paper has twelve, creating thirty-three infringements in total. Professor Ho and Ms. Huang calculate that, from that list of copied items, fifty-five percent are text, thirty percent are equations and fifteen percent are figures.

B. District Court Proceedings

Professor Ho and Ms. Huang brought this action against Professor Taflove and Mr. Chang, alleging copyright infringement and state law claims of false designation of origin, unfair competition, conversion, fraud and misappropriation of trade secrets. The district court granted summary judgment in favor of the defendants for all claims, *see Ho v. Taflove*, 696 F. Supp. 2d 950 (N.D. Ill. 2010), and subsequently denied the plaintiffs' motion for reconsideration, *see* R.139.

1. Summary Judgment Motion

The district court addressed separately each of the plaintiffs' five claims. On appeal, Professor Ho and Ms. Huang challenge only the district court's summary judgment ruling on their claims of copyright infringement, conversion, fraud and trade secrets misappropriation. We therefore shall examine the district court's rulings only on those claims.

With respect to copyright infringement, the district court held that the equations, figures and text were "unprotectable concepts, ideas, methods, procedures, processes, systems, and/or discoveries" and that the merger doctrine is applicable because there are limited ways of mathematically expressing the Model. *Ho*, 696 F. Supp. 2d at 954. The district court rejected the plaintiffs' analogy that, just as Mickey Mouse is a particular expression of a mouse, the Model is a creative expression of a scientific phenomenon. In the district court's

view, Mickey Mouse is entirely fictitious, but the Model mimics reality. The district court remained unpersuaded by the plaintiffs' contention that "unique assumptions" indicate that the Model is fictional because the plaintiffs were unable to identify what unique assumptions existed. *Id.*

With respect to the conversion claim, the district court first dismissed any claim that the defendants converted physical copies of the plaintiffs' work because, based on the presented evidence, the plaintiffs had access to such items at all times.³ As for conversion of the intangible ideas claim, the court noted that there was no evidence that the defendants prevented Professor Ho and Ms. Huang "from conducting, controlling, accessing, using, or publishing their research." *Id.* at 957.

The district court also found insufficient evidence to support a claim of fraud: "By taking credit for plaintiffs' work, defendants may have misled publishers or readers as to proper authorship, but they clearly did not mislead plaintiffs." *Id.*

In the district court's view, no trade secrets misappropriation occurred because the Model was not kept secret. It reasoned that the Model was published by Professor Ho and Ms. Huang in 2001 and 2002. Moreover,

³ Before the district court, the plaintiffs made no specific claim that Professor Ho's 2002 notebook was given to Mr. Chang and never returned. In fact, Professor Ho admitted in his deposition that, to his knowledge, the defendants never physically had taken anything of his. R.82, Ex. E (Ho Dep.) at 471-72.

a trade secret is not dependent on whether proper attribution is given in later publications.

In support of a trade secrets misappropriation claim, Professor Ho also had asserted that Professor Taflove and Mr. Chang's article and book chapter contained some materials from the notebooks that were not previously published. The district court, however, found this statement "unsupported" and "nebulous." *Id.* at 958. Thus, the assertion by Professor Ho was insufficient to support a claim of trade secrets misappropriation.

In the alternative, the district court found all the state law claims preempted by the Copyright Act. The court noted that preemption can apply even when the allegedly copied material is not subject to protection under the Copyright Act. Otherwise, the district court noted, the state could give copyright-like protection to material that Congress had decided not to protect by copyright. Accordingly, the district court granted summary judgment in favor of Professor Taflove and Mr. Chang for all claims.

2. Motion for Reconsideration

Following the court's ruling, the plaintiffs filed a motion for reconsideration. Although the filing was labeled as a Rule 60(b) motion, *see* Fed. R. Civ. P. 60(b),⁴ the

⁴ Federal Rule of Civil Procedure 60(b) states: "On motion and just terms, the court may relieve a party or its legal representa-
(continued...)"

district court held that the motion was, in substance, a Rule 59(e) motion to alter or amend its previous summary judgment decision, *see* Fed. R. Civ. P. 59(e).⁵ The

⁴ (...continued)

tive from a final judgment, order, or proceeding for the following reasons.” The reasons listed in Rule 60(b) include:

- (1) mistake, inadvertence, surprise, or excusable neglect;
- (2) newly discovered evidence that, with reasonable diligence, could not have been discovered in time to move for a new trial under Rule 59(b);
- (3) fraud (whether previously called intrinsic or extrinsic), misrepresentation, or misconduct by an opposing party;
- (4) the judgment is void;
- (5) the judgment has been satisfied, released or discharged; it is based on an earlier judgment that has been reversed or vacated; or applying it prospectively is no longer equitable; or
- (6) any other reason that justifies relief.

Fed. R. Civ. P. 60(b).

⁵ Federal Rule of Civil Procedure 59(e) provides: “A motion to alter or amend a judgment must be filed no later than 28 days after the entry of the judgment.”

The plaintiffs’ motion for reconsideration states that it is brought under Rule 60(b). A motion under Rule 60(b) seeks relief from a judgment. The plaintiffs’ motion, however, reiter-

(continued...)

motion maintained that the grant of summary judgment for copyright infringement and conversion was a manifest error of fact and law.

The district court denied the motion for reconsideration. Regarding the copyright infringement claim, the district court ruled that the plaintiffs improperly introduced new arguments in their motion and relied on previously available authority. The district court refused to consider these additional materials and found that the plaintiffs' remaining arguments were duplicative of those that already had been raised and rejected.

Regarding the conversion claim, the district court would not consider the "new" evidence proffered by the plaintiffs to show conversion of tangible and intangible property; these items had not been mentioned in the summary judgment briefing nor had they been included in the prior evidentiary submission. Additionally, Professor Ho had stated, in his deposition, that no items had

⁵ (...continued)

ates that it seeks "reconsideration" from the district court in part because of errors of law. An error of law is a basis for altering or amending the judgment under Rule 59(e), but it is not explicitly recognized as a basis for relief under Rule 60(b). *See Obriecht v. Raemisch*, 517 F.3d 489, 493-94 (7th Cir. 2008). The plaintiffs also filed their motion for reconsideration within the time allowed under Rule 59(e). Accordingly, we agree with the district court that the substance of the motion reveals that it is a Rule 59(e) motion to alter or amend a judgment. On appeal, neither party contests the characterization of the motion as a motion under Rule 59(e).

been physically taken from him. The district court also observed no error in its alternative holding that the Copyright Act preempted the conversion claim.

Professor Ho and Ms. Huang timely appealed the district court's decision.

II

DISCUSSION

Professor Ho and Ms. Huang submit that the district court erred in granting summary judgment on their claims of copyright infringement, conversion, fraud and trade secrets misappropriation and also that it erred in denying their motion for reconsideration.

A. Summary Judgment

"We review a grant of summary judgment de novo, construing all facts in the light most favorable" to Professor Ho and Ms. Huang and "drawing all reasonable inferences in [their] favor." *Ogden v. Atterholt*, 606 F.3d 355, 358 (7th Cir. 2010). Summary judgment is appropriate "if the movant shows that there is no genuine dispute as to any material fact." Fed. R. Civ. P. 56(a).

The party moving for summary judgment "always bears the initial responsibility" of showing "the absence of a genuine issue of material fact." *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). Once "a properly supported motion for summary judgment is made," the nonmoving party bears the burden to "set forth specific facts showing

that there is a genuine issue for trial.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 250 (1986) (internal quotation marks and citation omitted). Notably, any party asserting that a fact is or is not genuinely disputed must cite “to particular parts of materials in the record,” or show that “an adverse party cannot produce admissible evidence to support the fact.” Fed. R. Civ. P. 56(c)(1). Thus, “a party opposing a properly supported motion for summary judgment may not rest upon mere allegation or denials of his pleading.” *Anderson*, 477 U.S. at 256; *see also Cleveland v. Porca Co.*, 38 F.3d 289, 295 (7th Cir. 1994). Additionally, a “court need consider only the cited materials.” Fed. R. Civ. P. 56(c)(3).

Professor Ho and Ms. Huang challenge the district court’s grant of summary judgment in favor of the defendant on their copyright infringement, conversion, fraud and trade secrets misappropriation claims. We address each claim in turn.

1. Copyright Infringement Claim

In granting summary judgment, the district court accepted Professor Taflove and Mr. Chang’s view that the allegedly copied materials were not protected by the Copyright Act because the Model is an idea. Specifically, according to the defendants, the Model is “a new mathematical model of how electrons behave under certain circumstances.” R.81 at 7. Moreover, the equation, figures and text are the only ways to express this idea, and so, under the merger doctrine, these expressions are not copyrightable.

Professor Ho and Ms. Huang counter, in their response to the summary judgment motion and now on appeal, that the nature of the Model is fictitious because it describes reality under *hypothetical* conditions; accordingly, all of the Model's expressions are protected. In their summary judgment filings, however, they failed to address whether the equations, figures and text are the only possible expressions of the Model.

Protection under the Copyright Act is subject to statutory exceptions. Section 102(b) of the Copyright Act provides that:

In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S.C. § 102(b). We have described § 102(b) of the Copyright Act as codifying a "fact-expression dichotomy." *American Dental Ass'n v. Delta Dental Plans Ass'n*, 126 F.3d 977, 981 (7th Cir. 1997). In essence, "the Copyright Act protects the expression of ideas, but exempts the ideas themselves from protection." *Wildlife Express Corp. v. Carol Wright Sales, Inc.*, 18 F.3d 502, 507 (7th Cir. 1994). This limitation on copyright protection promotes the purpose of the Copyright Act by assuring "authors the right to their original expression," but also by "encourag[ing] others to build freely upon the ideas and information conveyed by a work." *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349-50 (1991); *see also*

Wildlife Express Corp., 18 F.3d at 507; *Erickson v. Trinity Theatre, Inc.*, 13 F.3d 1061, 1069 (7th Cir. 1994). Under the merger doctrine, when “there is only one feasible way of expressing an idea, so that if the expression were copyrightable it would mean that the idea was copyrightable,” the expression is not protected. *Bucklew v. Hawkins, Ash, Baptie & Co., LLP*, 329 F.3d 923, 928 (7th Cir. 2003). Thus, even though an individual can have a valid copyright in a document, facts and ideas contained in the document are not subject to copyright. *See American Dental Ass’n*, 126 F.3d at 979.⁶

The fact-expression distinction in copyright protection has roots in the Nation’s jurisprudence that go back long before the Copyright Act of 1976. *See Mazer v. Stein*, 347 U.S. 201, 217-18 (1954) (stating that “[copyright] protection is given only to the expression of the idea—not the idea itself” and discussing pre-Copyright Act cases). Indeed, the Supreme Court recognized this dichotomy in *Baker v. Selden*, 101 U.S. 99, 103 (1879), and explained

⁶ Professor Ho and Ms. Huang maintain that the infringed work enjoys a presumption of protectability because they obtained certificates of copyright for that work. They can own valid copyrights in a work, but that work may contain facts and ideas that are not subject to copyright. Moreover, they misunderstand the presumption: Ownership of a copyright creates a presumption of *validity* of the copyright, not that an infringement of that copyright occurred. *See JCW Inv., Inc. v. Novelty, Inc.*, 482 F.3d 910, 914-15 (7th Cir. 2007) (“The owner of a copyright may obtain a certificate of copyright, which is ‘prima facie evidence’ of its validity.”).

the rationale for limiting copyright protection in certain areas:

The copyright of a work on mathematical science cannot give to the author an exclusive right to the methods of operation which he propounds, or to the diagrams which he employs to explain them, so as to prevent an engineer from using them whenever occasion requires. The very object of publishing a book on science or the useful arts is to communicate to the world the useful knowledge which it contains. But this object would be frustrated if the knowledge could not be used without incurring the guilt of piracy of the book. And where the art it teaches cannot be used without employing the methods and diagrams used to illustrate the book, or such as are similar to them, such methods and diagrams are to be considered as necessary incidents to the art, and given therewith to the public; not given for the purpose of publication in other works explanatory of the art, but for the purpose of practical application.

We have recognized that the Court's explanation in *Baker* is reflected in § 102(b) of the Copyright Act. See *American Dental Ass'n*, 126 F.3d at 981.

Although the line between an expression and an idea can be difficult to determine at times,⁷ we do not believe

⁷ See *Nash v. CBS, Inc.*, 899 F.2d 1537, 1540-41 (7th Cir. 1990) (discussing the fact-expression dichotomy).

that the record in this case presents a particularly difficult situation. The Model is an idea. In Professor Ho and Ms. Huang's own words, the Model "mimic[s] . . . certain behaviors of millions of particles in a photonic device." Appellants' Br. 4. That is, the Model attempts to represent and describe reality for scientific purposes. This scientific reality was not created by the plaintiffs. Rather, the Model embodies certain newly discovered scientific principles. Granted, as the plaintiffs note, the Model makes certain hypothetical assumptions, but those hypothetical assumptions do not render the Model fictitious. Rather, the Model strives to describe reality, and, as conceded at oral arguments, the value of the Model is its ability to accurately mimic nature. *See Gates Rubber Co. v. Bando Chem. Indus., Ltd.*, 9 F.3d 823, 842-43 (10th Cir. 1993) ("The constants in the Design Flex program represent scientific observations of physical relationships concerning the load that a particular belt can carry around certain sized gears at certain speeds given a number of other variables. These relationships are not invented or created; they already exist and are merely observed, discovered and recorded. Such a discovery does not give rise to copyright protection."). As the Supreme Court put it in *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340, 347 (1991), "facts do not owe their origin to an act of authorship. The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence."

Professor Ho and Ms. Huang rely on two cases that are not relevant to this appeal because they involve alleged

copying of the creative presentation, not the substance, of facts or ideas. In *Flick-Reedy Corp. v. Hydro-Line Manufacturing Co.*, 351 F.2d 546, 548 (7th Cir. 1965), the plaintiff claimed that the defendant had copied the “expression and presentation of the computations, formulae and explanations.” We concluded that the “arrangement, expression and manner of presentation” of the mathematical data could be protected by copyright, even if the equations and formulae themselves were in the public domain. *Id.* Specifically, we commented on the coloring, wording and location of titles and type of shading used by the parties. In short, the issue in *Flick-Reedy* centered around the creative arrangement, expression and manner of presentation, and we were not concerned with whether the substance of the mathematical data was copyrightable.

Similarly, in *Situation Management Systems, Inc. v. ASP Consulting LLC*, 560 F.3d 53 (1st Cir. 2009), our colleagues in the First Circuit concluded that materials used to train employees in communication and negotiation skills were subject to the Copyright Act as expressions of a process or system. The court observed that the plaintiff made “creative choices in describing those processes and systems, including the works’ overall arrangement and structure.” *Id.* at 61.

In this case, by contrast, Professor Ho and Ms. Huang do not contend that the defendants appropriated their creative presentation of the Model through copying such aspects as the color or font employed by the plaintiffs. Rather, the plaintiffs contend that the de-

fendants copied the *substance* of the equations, figures and text. See R.82, Ex. D (Huang Dep.) at 265-67 (Ms. Huang affirming that the copying of the substance of the Model, not its presentation, was what mattered). Unlike the plaintiffs in *Flick-Reedy* and *Situation Management Systems, Inc.*, Professor Ho and Ms. Huang claim a copyright interest in the *substance*—not presentation—of the equations, figures and text.

On appeal, Professor Ho and Ms. Huang maintain that there are numerous ways to express the Model and therefore that, as a consequence, the merger doctrine does not apply. The plaintiffs, however, failed to support sufficiently this argument before the district court in their summary judgment filings. In their summary judgment papers, the plaintiffs offered no evidence of how the Model could be expressed through other equations or figures. Equations and figures are common components of mathematical science used to depict ideas. Although equations can be rearranged through the laws of mathematics, the substance of the equation nevertheless remains the same. Without any evidence that the Model could be expressed by equations and figures other than those used by the plaintiffs, we conclude that these equations and figures are “*required by*” the Model, see *Wildlife Express Corp.*, 18 F.3d at 508 (emphasis in original), and as such, are not subject to copyright.

Whether text, as opposed to equations and figures, is required by the Model or has other possible expressions is a more difficult question. We have recognized that text describing scientific ideas may be subject to copyright.

See *American Dental Ass'n*, 126 F.3d at 979 (“Einstein’s articles laying out the special and general theories of relativity were original works even though many of the core equations, such as the famous $E=mc^2$, express ‘facts’ and therefore are not copyrightable.”). Here as well, however, the plaintiffs did not raise adequately this argument in their summary judgment papers.⁸ Professor Taflove and Mr. Chang maintained in their summary judgment motion that the allegedly copied text was “one of only a few ways . . . to express” the Model. R.81 at 8. Professor Ho and Ms. Huang failed to refute that assertion in their response to the summary judgment motion. In fact, before the district court, the plaintiffs observed that “[i]t is irrelevant to copyright rights whether the expression is in words or mathematical symbols, just as an author’s choice of the English or German language is irrelevant to copyrightability.” R.91 at 6. Exactly how the text, defining the variables and offering technical explanations, could have been expressed differently is unclear.

Thus, in their summary judgment motions, the plaintiffs failed to show that the text at issue is one of

⁸ In their summary judgment papers and on appeal, the plaintiffs maintained that there are multiple ways of expressing the Model. This blanket statement seems to cover the expressions of the Model whether in equations, figures, or text. In their summary judgment papers, however, the plaintiffs offered no examples of alternative expressions or any other further elaboration. In their motion for reconsideration and on appeal, the plaintiffs offer several examples of how the text could have been written differently. See R.126, Ex. 1K.

many possible expressions. Based on the nature of the Model and the plaintiffs' failure to raise arguments adequately and to provide specific evidence in their summary judgment filings, the district court did not err in concluding that the equations, figures and text were not subject to copyright.

2. State Law Claims

Professor Ho and Ms. Huang also seek review of the district court's disposition of three state law claims for conversion, fraud and trade secrets misappropriation. The district court held that all of the plaintiffs' state law claims are preempted under the Copyright Act, and in the alternative, that each state law claim fails on the merits. We shall consider first the extent to which the Copyright Act preempts the plaintiffs' state law claims; we then shall examine the merits of any state law claim not preempted by the Copyright Act.

a. Preemption

We review de novo whether the Copyright Act preempts any of the plaintiffs' state law claims. *See Toney v. L'Oreal USA, Inc.*, 406 F.3d 905, 907-08 (7th Cir. 2005). The Copyright Act preempts "all legal and equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106" and are "in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103." 17 U.S.C. § 301(a). We have

distilled from the language of § 301 two elements: “First, the work in which the right is asserted must be fixed in tangible form and come within the subject matter of copyright as specified in § 102. Second, the right must be equivalent to any of the rights specified in § 106.” *Baltimore Orioles, Inc. v. Major League Baseball Players Ass’n*, 805 F.2d 663, 674 (7th Cir. 1986).

(1) Tangible Medium

Regarding the first element, we note that the material in which the plaintiffs assert rights—the Model and its manifestations in equations, figures and text—are expressions in a tangible form. These expressions even originate in tangible works that are copyrighted—namely, Ms. Huang’s master’s thesis and Professor Ho’s notebooks. Because the expressions of the Model are in tangible materials, the first element is satisfied.

(2) Equivalent Right

The second element for preemption is that the rights in the state law claims be equivalent to the exclusive rights under the Copyright Act. We summarized the rights of a copyright owner, detailed in § 106 of the Copyright Act, to be “reproduction, adaptation, publication, performance, and display” of the copyrighted work. *Toney*, 406 F.3d at 909. A well-respected treatise has elaborated on this concept along the same lines, noting that equivalent rights exist “if under state law the act of reproduction, performance, distribution, or display, no

matter whether the law includes all such acts or only some, will *in itself* infringe the state-created right.” 1 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 1.01[B][1] (2010) (emphasis in original). “[T]o avoid preemption, a state law must regulate conduct that is qualitatively distinguishable from that governed by federal copyright law—i.e., conduct other than reproduction, adaptation, publication, performance, and display.” *Toney*, 406 F.3d at 910.

We have concluded that the material in dispute—the equations, figures and text—are not copyrightable. However, the Copyright Act can preempt state law even when the rights are claimed in uncopyrighted or uncopyrightable materials. We accepted this possibility in *Baltimore Orioles, Inc. v. Major League Baseball Players Association*, 805 F.2d 663, 676 (7th Cir. 1986), when we determined that preemption applied even though the rights were asserted in work that was uncopyrightable. Again, in *Toney*, we noted that “state laws that intrude on the domain of copyright are preempted even if the particular expression is neither copyrighted nor copyrightable.” 406 F.3d at 911. In the Copyright Act, Congress sought to ensure that a state will not provide “copyright-like protections in materials” that should remain uncopyrighted or uncopyrightable. *Id.*⁹

⁹ Other circuits have come to a similar conclusion that when rights are asserted in uncopyrighted expressions in a copyrighted work, the Copyright Act still can preempt state law.

(continued...)

In their motion for summary judgment, the defendants assert that all of the plaintiffs' state law claims are "alternative legal theories for recovery" based on the alleged copying, R.81 at 13, and the defendants cite extensively to the plaintiffs' complaint as evidence. We consider separately whether each state law claim challenged on appeal is based on a right equivalent to those under the Copyright Act.

(a) Conversion

The complaint, with respect to conversion, states that the "Defendants *misappropriated* the works by *publishing* said works and texts . . . and Defendants passed off said works and text as their own without giving credit to Plaintiffs." R.1 at 14 (emphasis added). In their response to the summary judgment motion, the plaintiffs elaborate that "[b]y passing off the works as their own in numerous scientific publications, Defendants wrongfully and without authorization assumed control over them, which is actionable conversion." R.91 at 12. The conversion claim, then, is focused on the defendants' unauthorized publishing, not possession, of the

⁹ (...continued)

Nat'l Basketball Ass'n v. Motorola, Inc., 105 F.3d 841, 849 (2d Cir. 1997) ("Copyrightable material often contains uncopyrightable elements within it, but Section 301 preemption bars state law . . . claims with respect to uncopyrightable as well as copyrightable elements."); *R.W. Beck, Inc. v. E3 Consulting, LLC*, 577 F.3d 1133, 1146-47 (10th Cir. 2009) (same).

protected work. Because publishing is a right under the Copyright Act, the conversion claim is preempted.

The plaintiffs rely on *Bilut v. Northwestern University*, 692 N.E.2d 1327 (Ill. App. Ct. 1998), as support for their contention that a conversion claim is not preempted by the Copyright Act. We cannot accept this argument. In *Bilut*, the plaintiff alleged “loss of physical control over her research project,” *id.* at 1335, claiming that her professor “usurped” her ideas and then prohibited her from conducting a study, *id.* at 1333. The plaintiff’s claim of conversion in *Bilut* went beyond the publication of an idea. In this case, however, the plaintiffs have alleged conversion based *solely* on the defendants’ publishing the information without attribution. The present case is much more like the situation that confronted our colleagues in the Fourth Circuit in *United States ex. rel Berge v. Board of Trustees of the University of Alabama*, 104 F.3d 1453 (4th Cir. 1997). There, the court held that a claim of conversion was preempted because a “charge of plagiarism and lack of attribution can only amount to, indeed, are tantamount to, a claim of copyright infringement, for [the plaintiff] has certainly not been prevented from using her own ideas and methods.” *Id.* at 1464.

On appeal, Professor Ho and Ms. Huang also rest their conversion claim on Mr. Chang’s failure to return Professor Ho’s 2002 notebook. Yet, the plaintiffs failed to raise sufficiently this argument in their summary judgment papers. In their response to the summary judgment motion, the plaintiffs simply made a general assertion

that tangible property was taken without permission, followed by a citation to their statement of additional facts. The statement of additional facts, however, does not identify what tangible property was taken without permission and makes no mention of the 2002 notebook in particular. It was incumbent on the plaintiffs to identify with particularity the factual basis for their claim. *See Anderson*, 477 U.S. at 250. They failed to do so. We therefore must conclude that, based on the plaintiffs' summary judgment filings, the rights asserted in the conversion claim concerned the misappropriation of their work through publication, which is equivalent to the right to control publication under the Copyright Act.

(b) Fraud

As a general proposition, a claim of common law fraud is not preempted by the Copyright Act "so long as the causes of action concerning them contain elements that are different from copyright infringement." *Allied Artists Pictures Corp. v. Rhodes*, 496 F. Supp. 408, 444 (S.D. Ohio 1980), *aff'd in part, remanded in part*, 679 F.2d 656 (6th Cir. 1982); *see also Valente-Kritzer Video v. Pinckney*, 881 F.2d 772, 776 (9th Cir. 1989). A claim of fraud can be, however, a "disguised copyright infringement claim," if the sole basis of the fraud claim is that a defendant represented materials as his own. *Nimmer & Nimmer, supra*, § 1.01[B][1][e].

Here, the complaint alleges that the defendants knowingly published material taken from the plaintiffs and that defendants "fraudulently represented" that they

were the originators of the work. R.1 at 14. Additionally, in their response to the summary judgment motion, the plaintiffs asserted that “Defendants have, in essence, ‘passed off’¹⁰ Plaintiffs’ works as their own by using and representing Plaintiffs’ copyrighted materials as their own work,” R.91 at 13, and that “plagiarism is a type of fraud that is actionable.” R.91 at 12. Professor Ho and Ms. Huang’s allegations of fraud therefore amount to a claim that the defendants have published without attribution, thereby misrepresenting the true origins of the work. The plaintiffs do not allege in their summary judgment filings any other misrepresentation by the defendants. Because the fraud claim is based on the defendants’ improper publishing alone, it is preempted

¹⁰ True “passing off” claims are not preempted by the Copyright Act, but the “passing off” claim alleged by the plaintiffs is not of that variety. As Nimmer on Copyright explains:

[T]here is no pre-emption of the state law of fraud, nor of the state law of unfair competition of the “passing off” variety. If *A* claims that *B* is selling *B*’s products and representing to the public that they are *A*’s, that is passing off. If, by contrast, *B* is selling *B*’s products and representing to the public that they are *B*’s, that is not passing off. A claim that the latter activity is actionable because *B*’s product replicates *A*’s, even if denominated “passing off,” is in fact a disguised copyright infringement claim, and hence pre-empted.

1 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 1.01[B][1][e] (2010); see also *R.W. Beck, Inc.*, 577 F.3d at 1148 (quoting *Nimmer on Copyright*).

by the Copyright Act. *See R.W. Beck, Inc. v. E3 Consulting, LLC*, 577 F.3d 1133, 1148 (10th Cir. 2009) (finding the plaintiff's fraud claim was preempted because "[t]he crux of the allegations is that [the defendant] represented to the public that the reports it distributed were its own when, in fact, they were copies of [the plaintiff's] reports").¹¹

(c) Trade Secrets Misappropriation

In their complaint, Professor Ho and Ms. Huang allege that the "Defendants misappropriated Plaintiffs' trade secrets." R.1 at 15. In their response to summary judgment, they note that they "took steps to keep their works secret." R.91 at 13.

Under Illinois law, the definition of a trade secret requires that the information "is sufficiently secret to derive economic value" and is subject to efforts "to maintain its secrecy or confidentiality." 765 ILCS 1065/2(d). A trade secret misappropriation involves the acquisition of a trade secret through improper means, which requires the breach of a confidential relationship or other duty to maintain secrecy. *See* 765 ILCS 1065/2(a), (b). A

¹¹ On appeal, Professor Ho and Ms. Huang allege promissory fraud based on Mr. Chang's promise, when he left Professor Ho's group, not to use any of Professor Ho's research. This allegation of promissory fraud, however, was not mentioned by the plaintiffs in their summary judgment papers. Accordingly, we conclude that the Copyright Act preempts the plaintiffs' claim of fraud.

claim of trade secret misappropriation, then, requires that the information have a status of secrecy and that a confidential relationship be breached. Both of these elements go beyond the rights regulated under the Copyright Act.¹² The act of publishing the allegedly copied materials would not itself establish a trade secrets misappropriation claim. Because a claim for trade secrets misappropriation regulates conduct beyond the rights under the Copyright Act, it is not preempted.

In sum, Professor Ho and Ms. Huang's claims of conversion and fraud assert the same interests as those under the Copyright Act: to control the publication of the copyrighted work.¹³ Accordingly, the plaintiffs' claims of conversion and fraud are preempted under the Copyright Act, and we affirm the district court's grant of summary judgment on that basis. By contrast, the trade secrets claim asserts a right very different from the rights protected by the Copyright Act, and, therefore, with respect to that allegation, we cannot rest our decision

¹² See *Stromback v. New Line Cinema*, 384 F.3d 283, 303-04 (6th Cir. 2004) (citing cases, across circuits, which "have held that claims brought under state trade secret statutes . . . survive preemption because the required proof of the existence and breach of a confidential relationship provides the extra element necessary to survive preemption").

¹³ See also *Daboub v. Gibbons*, 42 F.3d 285, 289 (5th Cir. 1995) (finding all of the plaintiffs' state law claims preempted because "[t]he core of each of these state law theories of recovery in this case . . . is the same: the wrongful copying, distribution, and performance of the lyrics of [a song]").

on preemption, but must reach the substantive merits of that state claim.

b. Merits of the Trade Secrets Misappropriation Claim

Turning to the merits of the trade secrets misappropriation claim, the plaintiffs have failed to show a genuine dispute of material fact that, if resolved, would establish misappropriation of trade secrets. Illinois law provides the following definition of “trade secret”:

- (d) “Trade secret” means information, including but not limited to, technical or non-technical data, a formula, pattern, compilation, program, device, method, technique, drawing, process, financial data, or list of actual or potential customers or suppliers, that:
- (1) is sufficiently secret to derive economic value, actual or potential, from not being generally known to other persons who can obtain economic value from its disclosure or use; and
 - (2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy or confidentiality.

765 ILCS 1065/2.

In their response to the summary judgment motion, Professor Ho and Ms. Huang maintained that they had a valid trade secrets misappropriation claim because the

expressions of the Model had “‘actual or potential’ economic value” and because “they took steps to keep their works secret.” R.91 at 13.

We need not decide whether the expressions of the Model had economic value because the plaintiffs did not show, in their summary judgment papers, that the expressions of the Model had the status of secrecy. Professor Ho and Ms. Huang concede that “Professor Ho’s research results were partially published in a conference paper in 2001 and then published in more detail in 2002” in Ms. Huang’s master’s thesis. R.92 at 15.

The plaintiffs, nevertheless, offer two reasons why the Model had the status of secrecy; both of these contentions fail. The plaintiffs first submit that “it is expected that anyone reading that thesis and using the Model would at least cite the thesis as the source of the expression of the Model.” R.91 at 13-14. Such an expectation of attribution, however, is not part of a trade secrets misappropriation claim. Once the possessor of information intentionally releases that information, the possessor can no longer make a successful trade secrets misappropriation claim because the information is not subject to reasonable efforts to maintain secrecy.

Professor Ho and Ms. Huang also contend that the defendants used “materials from Ho’s copyrighted notebook that were not published.” *Id.* at 14. As support for this assertion, the plaintiffs point to their statement of material facts, which refers, in turn, to Professor Ho’s affidavit, submitted as Exhibit A to the plaintiffs’ response to the summary judgment motion. In his affidavit, Profes-

sor Ho generally asserts that the defendants' publications included materials from one of his copyrighted, but unpublished, notebooks. *See* R.91, Ex. A at 9. The affidavit, however, does not specify what material allegedly was copied from Professor Ho's unpublished notebook, as opposed to that taken from Ms. Huang's published master's thesis or from other published sources. *See Anderson*, 477 U.S. at 256 ("[A] party opposing a properly supported motion for summary judgment may not rest upon the mere allegations or denials of his pleading, but . . . must set forth specific facts showing that there is a genuine issue for trial." (internal quotation marks omitted)); *Porca Co.*, 38 F.3d at 295 (finding the assertion of bad faith alleged in an affidavit and stated in the form of "opinion and beliefs" was insufficient to show a genuine issue for trial). The plaintiffs claim that the defendants used material from Professor Ho's copyrighted notebook, but they provide no specific evidence linking the material in papers published by the defendant to that found exclusively in Professor Ho's unpublished notebook.

Because the plaintiffs fail to show that the expressions of the Model have a status of secrecy, their trade secrets misappropriation claim cannot survive summary judgment on the merits.

B. Motion for Reconsideration

We review a district court's denial of a motion for reconsideration for abuse of discretion. *Reger Dev., LLC v. Nat'l City Bank*, 592 F.3d 759, 763 (7th Cir. 2010).

The plaintiffs submit that the district court abused its discretion because it failed to consider the additional evidence they provided at this stage of the proceedings, including support for their assertion that there are many different ways to express the Model whether as sentences, paragraphs or even full articles. The defendants reply that the district court properly denied the plaintiffs' motion for reconsideration because the motion failed to explain what copying occurred and why it was actionable. Additionally, the defendants note that the plaintiffs did not show that the additional evidence previously was unavailable.

Federal Rule of Civil Procedure 59(e)¹⁴ "allows a court to alter or amend a judgment only if the petitioner can demonstrate a manifest error of law or present newly discovered evidence." *Obriecht v. Raemisch*, 517 F.3d 489, 494 (7th Cir. 2008). The plaintiffs, in their motion for reconsideration, proffered a great deal of additional evidence. Yet, as the district court and defendants note, the plaintiffs made no showing that this evidence was newly discovered or previously unavailable. Furthermore, as our previous discussion has made clear, the district court made no error of law that could have served as a basis for granting the Rule 59(e) motion. In their motion, the plaintiffs explicitly noted their disagreement with the legal reasoning of the court, but they presented no new argument that would expose an error in that reasoning. The district court nevertheless reex-

¹⁴ See *supra* note 5.

amined the issue of copyright infringement and conversion based on the motion, but it reached the same conclusion, a conclusion that we affirm today. Accordingly, the district court did not abuse its discretion in denying the plaintiffs' motion for reconsideration.

Conclusion

We conclude that the district court properly granted summary judgment on all claims in favor of Professor Taflove and Mr. Chang and that the district court did not abuse its discretion in denying Professor Ho and Ms. Huang's motion for reconsideration. Accordingly, its judgment is affirmed.

AFFIRMED