Here is a partial list of known significant errors in my published papers, with references to corrections.

1 Significant errors

1.1 [1] (with D.Kazhdan and A.Polishchuk) When is the Fourier transform of an elementary function elementary?, Selecta Mathematica 8(1):27—66, 2002.

It was pointed out by P. Sabatino and F. Viviani that the proof of Theorem 3.10 contains a gap. Namely, the argument with the Hessian at the end of the proof of Proposition 3.16 is not, by itself, sufficient to conclude that $Z \setminus 0$ is smooth. However, a different proof of Theorem 3.10 has been given in:

Chaput P.-E., Sabatino P., On homaloidal polynomial functions of degree 3 and prehomogeneous vector spaces, arXiv:1011.5975, Collectanea Mathematica, January 2013, Volume 64, Issue 1, pp. 135–140.

See also the correction on p.11 of arXiv:0003009v2.

1.2 [2] (with L. Bartholdi, B. Enriquez, E. Rains) Groups and Lie algebras corresponding to the Yang-Baxter equations, J. of Algebra., Volume 305, Issue 2, 2006, Pages 742-764.

It was discovered by P. Lee that the proof of Theorem 2.3 is incorrect. Namely, the proof rests on Proposition 5.1, which is false. As a result, the proof of Theorem 8.5 contains a gap, as it rests on the incorrectly proved Theorem 2.3. Similarly, the proof of Proposition 6.1 contains a gap, as it rests on the wrong Proposition 5.1.

In arXiv:0509661v6, these errors are corrected: Propositions 5.1 and 6.1 are deleted, and Theorems 2.3 and 8.5 are stated as conjectures (Namely, Conjectures 2.3 and 6.5, respectively).

Luckily, Conjectures 2.3 and 6.5 were proved by P. Lee in

P. Lee, The Pure Virtual Braid Group Is Quadratic, arXiv:1110.2356, Selecta Mathematica, 2013, Volume 19, Issue 2, pp. 461—508,

which effectively corrects the errors in our paper. In fact, he also proved Conjectures 2.4 and 6.6 of arXiv:0509661v6.

1.3 [3] (with D.Nikshych and V.Ostrik) On fusion categories, Ann. of Math. (2) 162 (2005), no. 2, 581–642.

I recently discovered that the proof of Lemma 9.7 contains a gap, and hence the proofs of the results on faithfulness of the lifting in Subsection 9.3 are incomplete. Namely, the proof of Lemma 9.7 (used in the proof of Theorem 9.6) says that by Nakayama's lemma, it suffices to check the finiteness of a certain morphism ϕ of schemes over $W(k)$ modulo the maximal ideal I (i.e., over k). But it is, in fact, not clear how this follows from Nakayama's lemma. Namely, finiteness over k does imply finiteness over $W(k)/I^N$ for any $N \geq 1$, but this is not sufficient to conclude finiteness over $W(k)$. In fact, the reductivity of the group of twists must be used in the proof.

This is corrected in

P. Etingof, On faithfulness of the lifting for Hopf algebras and fusion categories, arXiv:1704.07855.

See also a correction in math.QA/0203060v11, end of Subsection 9.3.

This also fills the gap in the proof of Theorem 6.1 in

P. Etingof, S. Gelaki, The classification of triangular semisimple and cosemisimple Hopf algebras over an algebraically closed field, IMRN: International Mathematics Research Notices, Vol. 2000 Issue 5, p.223—234.

See arXiv:1704.07855, Remark 4.4.

2 Less significant errors

2.1 [4] (with Yu. Berest and V.Ginzburg), Cherednik algebras and differential operators on quasi-invariants, math.QA/0111005, Duke Math. J. 118 (2003), no. 2, 279–337.

A few mistakes concerning certain KZ twists, which were overlooked in the published version (as found by M. Balagovic), are corrected in the web version, math.QA/0111005v6. The corrections involve Proposition 6.6 and Theorems 8.15(i) and 8.16. Also the statement of Conjecture 8.12 is corrected to include possible changes of sign of values of c.

We note that a similar error occurs in arXiv:math/0509252, Proposition 5.14 by R. Rouquier (and the published version of that paper).

2.2 [5] (with B. Enriquez and I. Marshall) Comparison of Poisson structures and Poisson-Lie dynamical r-matrices, math.QA/0412342, Int. Math. Res. Not. 2005, no. 36, 2183–2198.

As was noticed by A. Alekseev and E. Meinrenken and later by V. Toledano Laredo, the proof of Theorem 0.1 given in Subsection 1.1 (in particular, Propositions 0.2 and 0.3) apply only to the case when the Casimir element $t \in S^2\mathfrak{g}$ is nondegenerate (i.e., defines a linear isomorphism $\mathfrak{g} \to \mathfrak{g}^*$). The formulations of Propositions 0.2 and 0.3 are missing that condition. However, the second proof of this theorem, given in 1.2, applies in general.

These corrections are implemented in the latest version of math.QA/0412342.

We note that the linearization theorem for Poisson-Lie structures is proved geometrically in a more general case (namely, coboundary Lie bialgebras) in the paper

A. Alekseev, E. Meinrenken, Linearization of Poisson Lie group structures, J. Symplectic Geom. 14 (2016) 227-267, arXiv:1312.1223.

2.3 [6] (with D.Kazhdan) Quantization of Lie bialgebras, I, q-alg 9506005, Selecta Math. 2(1), p.1-41, 1996.

Adrien Brochier has discovered that the proof of Proposition 9.7 contains an error, namely the morphism χ is defined incorrectly. A corrected proof with the right definition of χ appears in

Brochier, A., A Duflo star-product for Poisson groups, arXiv:1604.08450v2 (2016), Subsection 2.2).

See also the correction in arXiv:q-alg/9506005v5 after Proposition 9.7.

Also, Theorem 6.2 is not quite correctly formulated. Instead of the category $\mathcal{M}_{\mathfrak{a}}$ of $\mathfrak{a}$-modules considered in this theorem, one should consider the category $\tilde{\mathcal{M}}_{\mathfrak{a}}$ of deformation $\mathfrak{a}$-modules. The functor F in the theorem (from $\mathcal{M}_{\mathfrak{a}}$ to the category $\mathcal{R}$ of representations of $U_h(\mathfrak{a})$) naturally extends to $\tilde{\mathcal{M}}_{\mathfrak{a}}$. The correct formulation of Theorem 6.2 says that F is an equivalence of $\tilde{\mathcal{M}}_{\mathfrak{a}}$ onto $\mathcal{R}$ (the proof of this is obvious from the results of [6]). In this form, Theorem 6.2 of [6] (=Theorem 6.5 in the arXiv version) for $\mathfrak{a}$ being the double of a finite dimensional Lie bialgebra is a special case of Theorem 4.1 in

P. Etingof, D. Kazhdan, Quantization of Lie Bialgebras, Part VI: Quantization of Generalized Kac-Moody Algebras, Transformation Groups, December 2008, Volume 13, Issue 3, pp. 527–539.

2.4 [7] (with D. Kazhdan), Quantization of Lie Bialgebras, Part VI: Quantization of Generalized Kac-Moody Algebras, Transformation Groups, December 2008, Volume 13, Issue 3, pp. 527–539, arXiv:math/0004042v3.

Theorem 4.1 is not correctly formulated. The target category of all Drinfeld-Yetter modules should be replaced with the category of *admissible* Drinfeld-Yetter modules. This correction is done in Theorem 2.24 of

Andrea Appel, Valerio Toledano-Laredo, A 2-categorical extension of Etingof-Kazhdan quantisation, arXiv:1610.09744.

2.5 [8] (with T. Schedler) Invariants of Hamiltonian flow on locally complete intersections, arXiv:1401.5042, GAFA, Geometric and Functional Analysis, December 2014, Volume 24, Issue 6, pp. 1885–1912

Proposition 3.13 and Example 3.14 were incorrect in the published version, and are corrected in arXiv:1401.5042v2.

2.6 [9] (with D. Nikshych), Dynamical quantum groups at roots of 1, arXiv:math/0003221, Duke Math J. 108 (2001), 135-168.

In the definition of the small quantum group in Subsection 5.1, the relations $E_\alpha^\ell = F_\alpha^\ell = 0$ are accidentally omitted for non-simple roots α. However, this does not affect the arguments.

In formula (44), there is a misprint: $E_{\lambda\mu}$ should be replaced with $E_{\mu\lambda}$.

Formula before Rem. 4.2.6 contains misprints in the Duke version (but not arXiv): $E_{\lambda+\mu,\lambda}$ missing, and mu should be μ.

2.7 [10] (with V. Ginzburg), Symplectic reflection algebras, Calogero-Moser space, and deformed Harish-Chandra homomorphism, Inventiones Math., v. 147(2), pp. 243—348, arXiv:math/0011114.

There is an error in the proof of Theorem 1.8(i), where it is erroneously claimed in formula (2.11) that $\psi_g \wedge \psi_h = \psi_{gh}$. This error already seems to occur in a previous paper of Alvarez (reference [Alv] in [10]), where Theorem 1.8(i) of [10] is proved for $c = 0$, i.e., for the semidirect product of a finite group with a Weyl algebra, see [Alv], 3.9.

To correct this, the normalization of ψ_g must be changed, namely, ψ_g should be replaced by

$$\mu_g := \det(1 - g|_{\mathrm{Im}(1-g)})^{1/2}\psi_g.$$

With this change, the proof of Theorem 1.8(i) of [10] becomes valid, and the same applies to the main result of [Alv].

This correction is implemented in Appendix C (by the authors and myself) to the paper

C. Negron, T. Schedler, with an appendix by Pieter Belmans, joint appendix with Pavel Etingof, The Hochschild cohomology ring of the global quotient orbifold, arXiv:1809.08715

2.8 [11] (with N. Harman and V. Ostrik), p-adic dimensions in symmetric tensor categories in characteristic p, arXiv:1510.04339, Quantum Topology 9(1), October 2015

In the proof of Proposition 3.6, there is a misprint: $\mathrm{Rees}(SY)$ should be defined as $\prod_{j\geq 0} \hbar^j F_j(SY)$ (i.e., $[[\hbar]]$ should be dropped). More importantly, instead of $\mathrm{Rees}(SY)$ we should consider $S(\mathrm{Rees}(Y))$, where $\mathrm{Rees}(Y) := \prod_{j\geq 0} \hbar^j F_j Y$. Then $S(\mathrm{Rees}(Y))$ is a formal deformation of $S(\mathrm{gr}(Y))$ (a priori not known to be flat), and $\mathrm{Rees}(SY) = S(\mathrm{Rees}(Y))/\mathrm{Torsion}$. Our job is to show that this deformation is in fact flat, i.e., the torsion is zero, so that $\mathrm{Rees}(SY) \cong S(\mathrm{Rees}(Y))$. This is shown as explained in the proof.

We are grateful to Kevin Coulembier for these corrections. They have been implemented in the arXiv version of the paper.

2.9 [12], Koszul duality and the PBW theorem in symmetric tensor categories in positive characteristic, arXiv:1603.08133, Advances in Mathematics, v. 327, p.128-160.

In the proof of Corollary 3.5, the same corrections are needed as in the proof of Proposition 3.6 of [11]. They have been implemented in the arXiv version of the paper.

2.10 [13] (with O.Schiffmann) On the moduli space of classical dynamical r-matrices, arXiv:math/0005282, MRL, Volume 8 (2001) Number 2, pp. 157-170

In the example at the end (on p.16 in the arXiv version), it should be assumed that $\mathfrak{l}$ is a *maximal* semisimple subalgebra of maximal rank in $\mathfrak{g}$.

2.11 [14] (with B. Enriquez), Quantization of classical dynamical r-matrices with nonabelian base, arXiv:math/0311224, Communications in Mathematical Physics, Volume 254, Issue 3, 2005, pp. 603—650.

Example 4.3: Same correction as in [13] (the subalgebra $\mathfrak{l}$ should be assumed maximal).